THE VETERINARY RECORD

FOUNDED BY WILLIAM HUNTING, F.R.C.V.S., 1888

No. 4. JANUARY 26, 1952 VOL. 64.

OBSERVATIONS ON DISEASES OF THE EYE IN ANIMALS, WITH PARTICULAR REFERENCE TO THE DOG*

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Generally speaking, most eye diseases in animals are of primary origin. They may be associated with infectious diseases, but seldom do we see ocular manifestation of systemic disease. True venereal disease does not occur in our domestic species and it cannot be said that metabolic disorders, with the exception of advanced *diabetes mellitus*, or dietetic deficiences, play any significant rôle. Hereditable defects are, to a greater or lesser extent, controlled by selective breeding. On the other hand, there are certain anatomical defects which are corrected by surgical interference and are perpetuated by breeding from apparently normal yet defective stock.

In the absence of subjective symptoms incipient visionary defects are difficult to diagnose in animals, and from the non co-operative nature of most of our patients examination of the deeper structures is not always easy, and to map out a visual field is virtually impossible.

Injuries to the anterior structures of the eye are the common lesions which confront the veterinary surgeon. Nature, however, has taken a hand in controlling this susceptibility by the provision of a well-developed *membrana nictitans* or third eyelid, and a retractor bulbi muscle. Both these structures function in automatic harmony. Contraction of the retractor muscle by displacing the retrobulbar fat in a forward direction pushes the third eyelid over the cornea.

Degenerative changes do occur but are found mainly in those species which make no contribution to the larder and, consequently, are permitted a longer lease of life.

In deference to the medical section of my audience it will be my endeavour this evening to cover a fairly wide veterinary field, but the time at my disposal will prohibit a detailed presentation and my remarks will apply mainly to the dog.

THE EYELIDS.—Congenital abnormalities, with the exception of entropion and distichiasis, are uncommon. Ankyloblepharon occurs in puppies and kittens, and is frequently associated with partial symblepharon. The latter defect is often combined with microphthalmus.

Entropion of the spastic variety affects most of our patients, particularly the dog. Certain breeds are more susceptible than others, but clinical manifestation seldom occurs before the puppy is three months old. In neglected cases corneal erosion and ulceration are frequent sequelae. On occasions a number of lambs in a flock exhibit gross entropion at birth and, if not corrected, corneal ulceration with perforation and a septic panophthalmitis follow within 48 to 72 hours. A sub-dermal injection of liquid paraffin has proved an effective treatment in lambs, but in other species the most reliable remedy is the removal of a strip of skin parallel to the palpebral margin.

Distichiasis is becoming increasingly common in the dog, and it is not unusual to find all members of a litter affected. The cilia of the posterior row are few in number but of sufficient size to produce corneal abrasion. Epilation is palliative, and for a permanent cure an entropion operation is necessary.

Ectropion is a natural characteristic in some breeds of dog, such as the Bloodhound, Foxhound, St. Bernard and others, and outside these breeds it invariably results from an overzealous entropion operation. It is readily corrected by the excision of an appropriate amount of palpebral conjunctiva.

The third eyelid, which has been mentioned previously, is well developed in animals and extending from the nasal canthus can cover most of the surface of the cornea should occasion demand it.

Protrusion of this membrane over the cornea is a characteristic feature of debilitating disease in the dog and cat, and in the latter it may persist throughout convalescence —a matter of great concern to the owner who feels that this " skin over the eye " should be removed. With improvement in bodily condition and increase in the retrobulbar fat the membrane recedes to its normal position. This third eyelid carries on its posterior surface a tubulo-acinous gland (Harder's gland) which in certain breeds of dog, notably the Bull-dog, Bull-terrier and Spaniel, in puppyhood, prolapses to become visible at the nasal canthus as a hyperaemic tumified ovoid swelling. Reposition is impossible or meets with recurrence and excision of the gland is the only remedy.

THE CORNEA.—Injuries to the cornea are encountered most frequently in the dog, and there is marked variation in their causation and severity. Some breeds, the Pekinese and the Pug in particular, in which a degree of proposis is a normal characteristic, are more susceptible to direct trauma, whilst in others corneal erosion results from entropion, trichiasis and distichiasis. Foreign bodies of the nature of grit, grass seeds and thorns are occasionally responsible. Whatever the cause there is every indication of pain as evidenced by photophobia and lacrimation, yet in many instances the lesion can be detected only by the aid of fluorescein solution. One cannot overstress the advantages derived from the routine use of fluorescein in patients from which we obtain such little help in diagnosis. On similar grounds an integral part of the treatment must aim at the control of pain by the use of anaesthetic collyria in order to avoid further self-inflicted injury. With appropriate treatment these superficial injuries heal readily without complication within 24 to 48 hours.

A common wound of the cornea, seen in the playful unsuspecting puppy, is the cat scratch, the seriousness of which will depend on the extent and depth of the injury. Most of them cause acute pain and spasm of the iris. With delay in the control of pain such wounds may be aggravated by the patient, become infected and ulcerate. The majority, however, remain free of infection and are repaired by the fixed cells of the part within three to seven days, leaving a faint linear scar.

Perforating wounds of the cornea are fortunately uncommon. If in the region of the limbus, such a wound is likely to cause a prolapse of the iris, which quickly becomes

* Paper read at a joint meeting of the Section of Ophthalmology and Section of Comparative Medicine, at the Royal Society of Medicine on February 9th, 1950.

incarcerated in the coagulum. If replacement is not made at the time of the accident it is difficult or impossible to free it later. Iridectomy is accompanied by profuse haemorrhage, and when one takes into consideration the complete indifference shown by the dog to the trapped iris the operation becomes superfluous.

Foreign bodies in the eyes of animals are often difficult to find and still more difficult to remove. By virtue of its size and domesticity the dog is by no means as refractory as its friend the cow, to the eye of which the oat flight and hay seed have a peculiar affinity. In either species, however, words of command mean little on such occasions, and adequate anaesthesia saves time and temper. In the dog cocaine in the form of lamellae or a 4 per cent. solution will suffice, but in the cow spasm of a well-developed orbicularis muscle has first to be overcome. Obstinate cases may require a general anaesthetic. On other occasions blocking the branch of the seventh cranial nerve which supplies this muscle is sufficient.

Corneal ulcer is by no means uncommon in the dog. Trauma is responsible for the majority. In the young dog such ulcers are often associated with a purulent conjunctivitis. In aged subjects they will appear spontaneously without apparent cause and an interesting aspect in some of these is the lack of response on the part of the peri-limbal vessels. Perforation occurs, but intraocular tension in these cases is so low that aqueous humor escapes without prolapse of the iris. The surface epithelium lines the crater and until the endothelium regenerates to seal off the anterior chamber a fistula exists. The endothelium may be sufficient support for some months, but sooner or later the fistula re-establishes itself.

In most patients infection of the cornea incites marked activity on the part of the conjunctival vessels and adventitious vascularisation of the cornea is rapid. In most cases they arrive at the scene of combat in the nick of time, the invading organisms are destroyed and repair follows quickly. Scarring is inevitable, but in the dog these opacities appear to cause little interference with visual acuity.

Corneal perforation consequent upon ulceration, in spite of vigorous measures in the form of cauterisation, occurs only too frequently. Partial or complete prolapse of the iris and an anterior staphyloma are the general rule.

Nevertheless, ample warning of impending perforation is always given and paracentesis produces spectacular results. Relief from pain is instantaneous, lymph flow in the cornea is improved and healing proceeds by granulation. A chronic interstitial keratitis seen in the older dog, especially the Spaniel, generally accompanies a mucopurulent conjunctivitis and a mild blepharitis. Vascularisation conforms to the typical pattern. Facetting and epithelial erosion are easily demonstrated with the aid of a loupe or fluorescein. Thorough swabbing of the conjunctival sac with a 2 per cent. silver nitrate solution has a salutary effect in most cases.

Corneal Melanosis.—Pigmentation of the cornea seems to be peculiar to the dog. Many breeds, of course, exhibit a normal conjunctival pigmentation and it is mainly in these that melanosis of the corneal epithelium is seen. The encroachment on to the cornea is insidious and progressive, and is often independent of corneal disease. It may be concomitant with or follow a keratitis, and is erroneously thought by many to be an argyrosis due to the prolonged use of silver preparations. Vision becomes obviously impaired, but complete blindness is not usual. There is no useful treatment.

Corneal Dermoids.—These congenital growths often escape notice until outgrowing hairs produce irritation and a keratitis. They are observed in the horse, ox, pig and dog. Situated at the temporal canthus, they may cover a fifth of the cornea. Although possibly scleral in origin, they appear entirely corneal and are pigmented. Sectionally, they comprise skin, hair and sebaceous glands. Removal is fairly simple but some opacity remains.

The Uveal Tract—The Iris.—In the absence of subjective symptoms it is questionable whether a primary iritis ever exists in our patients. A possible exception is a recurrent iridocyclitis in the horse which in America is a serious disease of unknown aetiology and the commonest cause of blindness in this animal. Individual cases are encountered in race horses and polo ponies in this country. It is sudden in onset and the initial symptoms suggest injury. Varying degrees of corneal opacity hinder examination of the deeper structures, but it is not difficult to detect a typical iritis with exudation into the anterior chamber. Prompt introduction of atropine controls spasm of the iris, relieves pain, minimises a synechia and usually results in recovery within days. Recurrent attacks are more serious and are not so easily combated. Keratic precipitates, cataract and a posterior synechia are almost inevitable. In the course of time there are widespread degenerative changes in all structures, and pronounced atrophy of the eyeball.

In the dog, iritis is usually secondary to corneal disease and then only transient. Deep corneal ulceration will provoke an outpouring into the anterior chamber of leucocytes which aggregate to form an hypopyon, of which no trace will be found in 24 hours. A posterior synechia is an exceptional sequel and precipitates on the back of the cornea are rare.

It is interesting to observe that baby calves on occasion exhibit an idiopathic bilateral hypopyon, which may occlude the pupillary aperture, giving the impression of a congenital cataract. Inverting the head rectifies this impression, but the anterior chamber may not clear for some days.

Congenital defects associated with the iris in animals take the form of persistent pupillary membrane and polycoria and appear to be of little clinical significance. Albinism is quite common in the odd-coloured horse, in the Collie and Great Dane. Heterochromia iridis is seen in the pure white cat.

Glaucoma.—There is no evidence available to suggest that a primary glaucoma is a syndrome of animals and secondary glaucoma is more or less confined to the dog, when it arises as a sequel to a complete anterior staphyloma, a lens extraction or lens luxation. In the latter the eye quickly reaches a stage of hydrophthalmos with scleral etasia in the intercalary region. Cupping of the optic disc has not been observed.

The Lens—Cataract.—Degenerative changes with opacity of the lens show a higher incidence in the horse and dog than in our other patients. The diagnosis of a cataract in animals is a simple matter. but examination of the lens in order to determine the exact nature and position of the lesion is a tedious procedure and the result has little practical significance. In veterinary practice it is customary to regard most cataracts which are not secondary to ocular disease elsewhere as hereditable in the hope that by careful selection its incidence can be lessened. Congenital cataracts if detectable—in most cases they are complete—bring about an early demise of the patient. Degenerative changes in the lens are seen in *diabetes mellitus* in the dog, but are by no means constant. Cataract is a serious defect in the horse, especially if destined to be ridden, for obvious reasons, but in the dog, unless complete and causing blindness—and then only if bilateral—is relatively unimportant. Treatment for cataract by lens extraction or discission is fraught with

difficulties and is speculative. Discission was at one time practised on the horse but has now almost entirely been discontinued. It is questionable whether lens extraction is justifiable in the dog when the desired result cannot always be achieved and when the patient has such little respect for optical aids. The dog blind from complete opacity of the lens rarely suffers from corneal injury for the simple reason that it treads warily and seldom or never bumps into obstacles. On the other hand, it is thoroughly accustomed to its home surroundings and leads a contented happy life. The dog with a subluxated lens is a different proposition. Astigmatism and diplopia prevent the dog from focusing and distinguishing objects clearly. Consequently, he blunders into them and early lens extraction is indicated.

Luxation of the lens is rare in species other than the dog, and in the latter is mainly confined to two breeds, the Wire-haired Fox Terrier and Sealyham, in both of which it is thought to be hereditary with a familial tendency. Not manifest until the dog is at least three years old, it commences with an iridodonesis followed by glaucoma, tilting of the lens and visionary disturbance. It is essentially bilateral but one eye may precede the other. With hypertension the pupil becomes more and more dilated and an area of aphakia can be clearly recognised under focal illumination. In the Sealyham it is not unusual to find that the vitreous has liquefied, permitting the lens to fall backwards into a horizontal position. When this happens the dog is less visually confused and the glaucoma remains stationary. In the Fox Terrier adhesions form between the lens capsule and the hyaloid membrane, maintaining the lens in a central or tilted position for varying periods of time —even months. The condition now becomes one of progressive glaucoma. Treatment is satisfactory only if the lens is removed in the early stages before an anterior peripheral synechia has had time to develop. An intracapsular extraction is the operation of choice but the risk of vitreous prolapse is real.

The Retina.—So far as I am aware, retinal detachment as a primary lesion is unknown except in the cat. It is usual to find both eyes affected and although detachment may be only partial, visual acuity is decidedly low. The pupils are permanently dilated and the condition can be recognised quite easily. The detached portion gives an undulating or billowing effect. It is made more prominent and characteristic by its pale bluish white colour, which stands out in marked contrast to the iridescent tapetum of the attached areas. Interruptions in the continuity of the retinal vessels involved complete the picture.

Retinal atrophy has been recognised in animals for some time. More recently, attention has been directed to its increasing incidence in the Irish Setter, in which there is evidence of heredity and consanguinity. Those who are familiar with the disease can pick out affected puppies as early as six or eight weeks of age merely by observing in a suitable light a green pupillary reflex in contrast to a golden green of a normal subject. This green reflex is more readily appreciated in affected setters due to the tendency to dilatation of the pupil. The term "night blindness" has been conferred on this condition because it is at night that the first symptoms of visual disturbance are noticed. Fundus examination shows a gradual diminution in size of the retinal vessels which lose their vigorous red colour to become pink and gradually paler. They become more and more attenuated until when atrophy is more or less complete they are limited to the optic disc region and are thread-like. Finally, the venous circle of the optic papilla is lost, this becoming pale cream in colour. In absolute atrophy the dog is completely blind and the pupil permanently dilated. Hodgman, Parry, *et al.* (1949) have given a comprehensive account of this disease in the Red Setter, and Mr. Parry has this evening brought along some affected puppies for your examination. Retinal atrophy is seen in other breeds of dog, notably Labradors. The disease may be a sequel to distemper, when complete atrophy and blindness develop much more rapidly than in the average case.

In the cat, blindness from the same cause occurs at ages varying from six months to three and a half years. From material and data supplied by Millar (1944) there is some support for believing that it is heritable.

Clinical features and examination of the fundus suggest that retinal atrophy is also the cause of blindness in cattle. Most cases have been observed in the Channel Island breeds. In most of these subjects ophthalmoscopic examination of the fundus will reveal some slight peripheral vision. The vascular picture is slow to change and without careful comparison with normal cattle it is difficult to detect any variation. Finally, it might be mentioned in passing that a remnant of the hyaloid artery persists throughout life in the ox. It has the appearance of a "wind sock" seen on aerodromes as it wavers in the vitreous from its attachment at the optic disc.

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OCULAR CONDITIONS IN ANIMALS*

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Although I feel that my knowledge of the ocular conditions met with in animals is somewhat limited, yet perhaps the following experiences in practice may be of some interest to veterinary surgeons.

I have been lucky in having as a friend a very busy veterinary surgeon and so have been consulted by him on quite a number of cases of difficulty where the eyes were affected. These have all been dogs and included such conditions as conjunctivitis, keratitis, foreign bodies, corneal ulcers, dislocated lenses and cataract, and cases in which there was doubt as to whether the patient was blind in an eye or not. It has been an interesting experience and I strongly recommend it to others, as the dog is a remarkably well-behaved patient and it is very unusual for one to have any real apprehension about the examination. My best patient was the dog which took part in the film of "Three Men in a Boat—And the Dog." Its intelligence quotient would have made some of my bipeds quite envious.

To illustrate the problems which may come along I will describe a case of much interest in a most perfectly groomed bob-tailed sheep dog which was supposed to be partially blind although there was nothing in the pedigree to suggest it. When in the consulting room he certainly bumped into objects which I put in his path and yet the media and fundi seemed quite normal. It suddenly struck me that the wonderful care with which the hair over the eyes was combed might be responsible, so I advised tying it up over his forehead. From that moment he was a different dog. In natural

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surroundings the hair across the eyes is matted with mud and so forms only a few protective locks with chinks in between for distinct vision ; in the case of this patient it formed an almost impenetrable curtain.

The differential diagnosis of conjunctivitis and foreign bodies is often quite difficult, and the history from someone in charge and the behaviour of the patient are both very important. Recently I had a dog brought to me by its owner in which the veterinary surgeon had tried the usual remedies for conjunctivitis. The owner gave me to understand that both eyes were half closed and there was discharge. I could see that the left eye was half closed and the third eyelid drawn over the cornea which was quite bright. I ordered some lotion. A week later the condition was the same and the dog very unhappy. The veterinary surgeon then came and from his evidence I was sure the lesion was in the left eye only. We examined for a foreign body behind the third eyelid and then on eversion of the upper lid I noticed a little speck of mucus. On wiping this away I could see with the binocular loupe a black spot and with lash forceps removed a hair-like bristle from one of the mucous glands over the tarsal plate. There was immediate relief on all sides and especially to the patient.

Keratitis, both superficial and interstitial, with the formation of new vessels is not uncommon—possibly trauma plays an important part, but my impression is that nutritional deficiencies are not common even though dogs have a very curious and what we would consider unbalanced diet. I used to put them on raw liver before the War and it seemed to help in some of them. I have had only one case of squint and that was a divergent one in a Peke. It was a valuable dog but never did well in the showroom as the judge would not overlook the defect. I operated on it at the Westminster Ophthalmic Hospital and had as my assistant Mr. Keith Lyle when, I think, he was R.M.O. there. We made a moderately satisfactory correction but the case is perhaps memorable as I feel it may have been partly instrumental in directing Mr. Lyle's interest to the rectification of muscle defects in human beings.

Before going on to my main contribution to the subject to-night of the treatment of dislocated lenses and cataract, perhaps I may digress to suggest that we should be prepared to help the veterinary surgeon in the ophthalmic work which comes his way, especially where dogs are concerned. They mean so much to their owners and often develop eye diseases at a time when they have many years of useful and faithful service. They suffer from cataract and dislocated lenses at an early age and the operative treatment of these two conditions is not readily undertaken by the veterinary surgeon as he naturally finds it to be a highly specialised study. There is not much literature on the subject but in one fairly comprehensive account of cure of cataracts in dogs, the method used was couching into the vitreous by a needle inserted behind the ciliary body ; I do know, however, that some veterinary surgeons in this country do use the anterior approach after a corneal section. From our point of view, also, the practical experience is valuable as there are several added difficulties to be overcome. I have done only seven cataract extractions altogether but have, I think, developed a technique which seems to suit the changed anatomical conditions. Some have been operated on in hospital and some by kind permission of Mr. Knight in his most up-to-date operating theatre at the Royal Veterinary College. Of these, one was a successful intracapsular extraction, two started as intracapsular but ended up as extra capsular, three were extracapsular from the start and two were removed with the Vectis. The points one would like to emphasise in operative technique are as follows :—

The usual precautions as to the type of cataract must be taken. Dogs get juvenile and senile, traumatic and diabetic cataracts.

Atropine drops or ointment beforehand usually gives adequate midriasis.

Anaesthetic is by intravenous injection of nembutal, a large dose being given (1/5 grain per lb. of bodyweight). The animal is absolutely quiet and remains so for two hours or more and suffers no after effects.

The hair is shaved from the lids and the skin cleaned and then the head is propped up for operation by our usual method, from above and behind.

The upper blade of the retractor takes in the upper lid and the lower the third eyelid and lower lid. A canthotomy is advisable in all cases, but even with this the exposure is poor, only the upper part of the limbus being visible. A retro-ocular injection of saline has been tried, but it predisposes to loss of vitreous and traction sutures on the inner and outer sides of the globe are not of much use and distort the globe when once the section has been started. I have found it better to insert a corneo-scleral suture and then do a minimal section with the Graefe and enlarge the wound on both sides with Sinclair's scissors. The section must be reasonably large as the proportional size of lens to eye is 1-18 in man and only 1-10 in the dog. The assistant holds the corneal part of the suture and gently retracts it forward, thus ensuring a very good exposure of the lens capsule which can be seized with capsule forceps and the usual attempt made to extract the lens intact. An iridectomy is inadvisable as the iris is thick and vascular and oozes much more readily than the human iris when cut. In my successful intracapsular extraction the lens came away fairly easily but on lifting it out I found that the vitreous was adherent to it at the posterior pole and a globular mass of vitreous came with the lens. I do not know if this is usual or if it is a separate part of the vitreous, perhaps the primary vitreous, but it is disconcerting. In the unsuccessful intracapsular extractions the capsule ruptured at the posterior pole and the whole capsule came away as a bag, leaving the lens lying in position. This could be picked out intact quite easily without loss of any vitreous. The extracapsular extractions proved how very thick the anterior capsule was and it was very difficult with capsulectomy forceps to remove it, but when this was done the cataractous lens could be expressed and helped out with a cystotome. This extracted portion resembles a lily bulb and has hard segments which break off easily. The Vectis cases were done when I thought I could not extract in any other way but I think they can be avoided with better technique. After removal of the lens the corneo-scleral suture is tied and the iris replaced if necessary. Penicillin ointment is inserted between the lids and these are closed. I have tried a temporary mattress suture of the lids as a safeguard but do not think this is wise as the dog may not like it and may get his claw under it ; also an Elizabethan collar, but this is cumbersome and makes the patient look as if he had been treated for some political crime behind the iron curtain, and I am sure it must be most uncomfortable. The results show that the wound heals well and in most cases the resultant fundus reflex is reasonably normal.

Apparently the refraction of normal dog's eyes shows that hypermetropia, myopia and astigmatism are very similar in proportion to those found in the human being and so visual acuity afterwards without glasses must be rather poor. However, a dog needs to see objects only to avoid them, its

main pleasures coming through its other senses. Although a dog does fix with its macula, there is a lack of differentiation in the retinal layers which indicates a normal low visual acuity. The accommodative power in a dog has been worked out by different methods of dynamic refraction and apparently it consists of only about two to three diopters. This explains the somewhat rudimentary ciliary body.

A curious phenomenon in dogs is that the pupil dilates on looking at a near object and contracts for distant vision.

Dislocated lenses has been the subject of a very interesting paper by Professor Formston (Formston, C., 1945) and so I will mention only a few points which result from my attempts to remove some of them. They were originally thought to be traumatic, but Professor Formston has shown that they occur in certain breeds, chiefly wire-haired terriers (90 per cent.) and Sealyhams (10 per cent.). Pekes, which are most prone to trauma, never get dislocated lenses. The corneal opacities which seemed to indicate trauma are secondary to the glaucoma which nearly always supervenes and which in the dog leads to hydrophthalmos. The iridodonesis is first noticed at an early age—two years ; this increases and the lens becomes cataractous and dislocated. It would appear as if removal of the lens should be undertaken in the early stages by intracapsular extraction if possible. Later, when dislocated, a Vectis is needed and as the lens of a dog is relatively large, a large-sized Vectis is preferable. The retina is relatively close to the back of the lens and is easily damaged by too deep a plunge with the Vectis.

As far as I can find out, the occurrence of sympathetic ophthalmia has not been noted in dogs either after penetrating injury with incarceration of iris or after operation. One wonders how they do it, and what one should learn from this remarkable freedom from such a serious complication.

I hope I have been able to show that collaboration with a veterinary surgeon does bring a number of interesting and instructive cases to us for diagnosis and treatment.

REFERENCE

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KENNEL CLUB "OBEDIENCE CERTIFICATES"

In its December, 1951, issue the *Kennel Gazette* announces that the Committee of the Kennel Club has now decided to offer Obedience Certificates for each sex and the following has been added to the Regulations for Obedience Classes:—

"The Kennel Club will offer an Obedience Certificate Dog and an Obedience Certificate Bitch for winners of First Prizes in Test 'C' Dog and Test 'C' Bitch at a Championship Show, provided that the exhibits do not lose more than 10 points out of 330, and provided also that the Tests are open to all breeds.

"A dog which wins three Obedience Certificates under three different Judges at Championship Shows shall be entitled to be described as 'Obedience Champion' and shall receive a Certificate to this effect from the Kennel Club."

The Committee also decided that it will consider applications to hold Championship Obedience Tests as separate events and the regulations have been amended accordingly. Hitherto these Championship Tests for Obedience Certificates could only be held in conjunction with a Championship Dog Show. The Committee will now consider applications from Clubs to hold the Obedience Tests as separate events with Obedience Certificates offered.

The Secretaries of all Societies which apply for Obedience Certificates must note that these are now offered for each sex and the sexes must therefore be divided in the competition for these certificates.

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CURFEW FOR DOGS

The Bexhill Corporation has approved a regulation making it an offence for owners of dogs in the borough to allow their pets to stray from between an hour after sunset and an hour before sunrise. Recently farmers complained of the great increase in sheep worrying by dogs at night and asked for the Council's help to end it.—*The Times.*

SNAPE'S "ANATOMY OF AN HORSE"

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An event of great significance in the history of Veterinary Science was the publication at Bologna, in 1598, of Carlo Ruini's *Anatomia del cavallo*, a work destined to influence the quality of comparative anatomy for nearly 300 years (Cole, 1944). The excellent woodcuts with which the author illustrated his text are prominent among the most interesting features of the work, and since they are obviously the work of an artist of consequence, their origin has been debated for some considerable time.

According to Bayon (1935) Dr. Jourdain used reversed transfers of Ruini's plates for his book *La vraye cognoissance du cheval*, published in 1647, in the preface of which it is stated that Titian was the original artist ; but there seems to have been little support for this belief, and the matter rested obscure until it was suggested that Ruini's plates were, in fact, based on drawings made by Leonardo da Vinci in preparation for his Sforza monument (Leclainche, 1936). It is known that during the 10 years following 1483 Leonardo devoted a good deal of his time to the study of equine anatomy, particularly with regard to the surface anatomy of the limbs and to the problems of posture and proportion (McMurritch, 1930), and it is not difficult to find suggestive similarities between many of Leonardo's drawings and Ruini's plates.

For many years after their first appearance, Ruini's plates were copied without acknowledgment in numerous anatomical texts. There is a curious and flagrant instance of this in a book published in London in 1683, *The Anatomy of an Horse*, by Andrew Snape, whose plagiarism, however, did not extend to the script (Figs. 1 and 2).

At that time Snape was farrier to King Charles II. His family had been farriers to the Crown for many years, and his son became Master of Eton and Provost of King's College, Cambridge. But although little is known of his history, an aspect of his character can be found in John Evelyn's diary, *viz.*, ". . . First May, 1683. I went to Blackheath to see the new fair, being the first procured by Lord Dartmouth. This was the first day pretended for the sale of cattle, but I think, in truth, to enrich the new Tavern at the bowling green erected by Snape, his Majestie's farrier, a man full of projects."

Snape's work was the first important contribution to equine anatomy in English, and had a profound influence on the art of farriery right up to the 18th century.

George Skeavington, writing in 1838, says of him : " Snape's anatomy of the horse proves him to have been a well-informed farrier. His anatomical system, arrangements and nomenclature, were, of course, drawn from the Italian School ; but he dissected, and his descriptions were confirmed by his own observations. His numerous plates are bold, accurate and handsomely executed " (Skeavington, 1838).

Skeavington's assessment is fair. Many parts of the text indicate a wide knowledge of practical anatomy. For instance, in the appendix on the *Motion of the Chyle and the Circulation of the Bloud*, Snape describes an experiment he performed to show " that there are no Anastomoses of the Arteries with the Veins." Having bled a horse to death he inserted a quill into one of the carotid arteries: " I blew

Fig. 1.—Gilbert White's print of Andrew Snape at 38 years of age.

into it as hard as I could," he says, "whereupon I perceived the branches of the Arteries on both sides of the face to swell, yea and also the carotid Artery on the other side of the Neck; but I no sooner left off blowing but they were immediately emptied. . . ."

Again, in the appendix on the generation of animals in which he describes the development of the chick: "I . . . I therefor, for this purpose set 14 new laid Eggs (gathered from several Hens with mine own hands, that I might be sure none of them had been sat on before), under one Hen, July the 1st, 1680, on which I made the following observations . . ."*

Though he may have been wrong in many of his conclusions there is thus ample evidence that Snape made some attempt to confirm by experiment what he was about to propound in theory.

In a review of the position of veterinary anatomy in England during the 16th, 17th and 18th centuries, Sir Frederick Smith (1922) suggested that Snape had fortified himself for his work on the structure of the horse by a study of human anatomy. And although condemning Snape's inaccuracies, especially in the muscular system, and his ridiculous claim that no one had preceded him in the study of equine anatomy, Smith compared him favourably with men like Thomas Blundeville and Gervase

* For an account of Snape's knowledge of Embryology, see Needham, *History of Embryology*, Cambridge, 1934.

THE
ANATOMY
OF AN
HORSE
CONTAINING
An exact and full Deſcription of the *Frame*, *Situation* and *Connexion* of all his *Parts*, (with their *Actions* and *Uſes*) expreſt in Forty nine Copper-plates.

To which is Added
An APPENDIX,
Containing two Diſcourſes:
The one, of the
GENERATION of ANIMALS;
And the other, of the
MOTION of the CHYLE,
AND THE
CIRCULATION of the BLOUD.

By *ANDREW SNAPE*, Jun. Farrier to His MAJESTY.

LONDON,
Printed by *M. Fleſher* for the Authour, and are to be ſold by *T. Fleſher* at the *Angel* and *Crown* in S. *Paul's* Church-yard. *An. Dom.* 1683.

Fig. 2.—Title page of Snape's *Anatomy of an Horse*.

Fig. 5.—Enlargement of page number on Fig. 3.

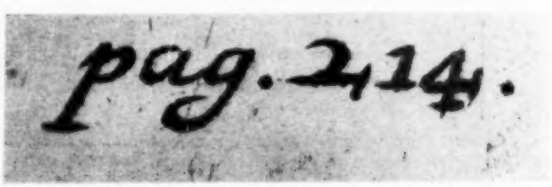

Fig. 6.—Sample page number containing the figure 2 for comparison with Fig. 5.

Fig. 3.—Snape's engraving of the skeleton of a horse—"drawn exactly by one that I keep standing in a Press." Cf. Fig. 4.

Fig. 4.

Markham, whose publications had been founded more on hearsay than on Science.

With a single exception (Fig. 3), the plates are faultlessly engraved and many are very beautiful (Fig. 4). The exception, however, presents a curious problem on account of the numerous errors it contains, letters and Roman numerals being reversed and the standard of craftsmanship so inferior that one must presume it had a separate origin. Moreover, in this plate, in the engraving of the page number, the figure 2 is unique in that it is the only one among the anatomical plates which does not carry a serif on its tail (cf. Figs. 5 and 6). Snape claimed that this plate represents the skeleton of a horse "*drawn exactly by one that I keep standing in a Press*"; and one might be inclined to grant him this—but critics such as Cole (1944) prefer to include it with his plagiarisms.

Whatever may have been his shortcomings with regard to the plates, Snape shows a fairly wide knowledge of classical and contemporary literature. He refers to the opinions of Aristotle and quotes Aristophanes. His conception of the circulation of the blood closely follows Harvey; he is conversant with the work of Malpighi, Needham, Bartholin, and the illustrious Dr. Willis; in fact, the general impression of Snape as revealed by his text is that of an educated man. There can be no doubt that in intellectual attainments he was far superior to the leeches, horse-doctors and cow-doctors who peddled their potions around the countryside at that time and for long afterwards.

One thing is certain. Whilst Snape himself remains a mysterious and somewhat suspect figure, his *Anatomy of an Horse* cannot be regarded as unworthy of "a man full of projects," and should be allowed, on its own merits, to take its place among the elegant anatomical treatises of the 17th century.

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Weekly Wisdom

The subject of nutrition suffers greatly from didactic statements made by people who have no conception of the difference between a point of view and an established fact.—Nature.

* * * * *

In their second year of publication of the *Farmers' Annual*, 1952, Massey-Harris Ltd., the agricultural engineers, have issued, under the editorship of James A. Hodgson and Graham Cherry, M.A., a comprehensive and lavishly illustrated production containing many articles on agricultural topics of current importance. The contributors include Sir George Stapledon, Sir James Scott Watson, A. G. Street, Anthony Hurd, M.P., Geoffrey Browne and R. Donald Scott, M.P. A limited number of copies (3s. 6d., postage 6d.) is available from James A. Hodgson, Ltd., Morris House, Berkeley Square, London, W.1.

CLINICAL COMMUNICATION

THE TREATMENT OF BLACKHEAD IN TURKEYS WITH ENTRAMIN

J. CARMICHAEL AND MARY MACLAY
VETERINARY RESEARCH DIVISION, MESSRS. MAY & BAKER, LTD.

Horton Smith and Long (1951) reported on the efficacy of 2-amino 5-nitrothiazole, under the name of Enheptin T, in experimentally induced histomoniasis in turkey poults. Entramin contains 22·5 per cent. of the active substance in the form of a premix for admixture with the mash. This note records the results of the use of the drug in naturally infected turkeys.

1. Ten 12-week-old American bronze turkeys were received from an infected flock. All were showing clinical symptoms of the disease ranging from moderate to very advanced cases. One of these latter was killed and *post-mortem* examination revealed severe and typical lesions of histomoniasis in the liver and caeca.

Of the remaining nine birds one died overnight showing similar lesions *post-mortem*. The remaining eight turkeys refused all food and it was decided to dose them individually with Entramin using a syringe and a flexible oesophageal cannula. A dose of 0·5 gramme (0·112 gramme of the active substance) was arbitrarily decided on and the drug was suspended in gum tragacanth in water. This dose was repeated on the following day and by the third day the birds were much brighter and were feeding. Entramin was therefore added to the mash to give a concentration equal to 0·1 per cent. 2-amino 5-nitrothiazole, which is the usual curative dose. Thereafter the turkeys improved rapidly and were almost normal within a week. Some grain was given later as well as the Entramin mash, the concentration of which was reduced to half (0·05 per cent.) the usual prophylactic level on the 11th day. On the 10th day one bird was accidentally shut out in the rain overnight and was found dead 36 hours later. At the *post-mortem* examination it was interesting to note that no necrotic foci were obvious in the liver but on closer inspection a shadowy outline of the lesions, in which normal tissue had regenerated, could be distinguished. The caeca were enlarged and contained dry caseous material indicating a much slower resolution in these organs than in the liver.

During the fourth week of treatment one of the remaining seven turkeys was seen to be dull, with drooping wings. No specific symptoms of blackhead were noted but a relapse was suspected and a dose of 0·5 gramme of Entramin was given at 5 p.m. This bird was found dead the next morning. *Post-mortem* examination revealed no lesions of blackhead though the caeca were enlarged and contained brown pasty ingesta. The liver was free from lesions but the gall bladder was distended. Spleen—small and pale with very prominent malpighian corpuscles. Kidneys—swollen and dark in colour. The duodenum showed a mucoid catarrhal enteritis. Entramin poisoning was suspected as the cause of death as the bird had probably eaten a quantity of medicated mash in addition to the 0·5 gramme dose.

Entramin mash was then (after four weeks) discontinued for two weeks. During this period there was no recurrence of blackhead symptoms and prophylactic treatment was again recommended and has continued up to date—approximately three and a half months in all. The surviving six turkeys have thrived and are in excellent condition. It should be emphasised that these birds were and are running in a grass pen with no precautions to avoid reinfection.

2. A flock of 250 turkeys kept in two straw yards with no overhead cover, by a farmer. At about 12 weeks old several birds were reported sick and two out of the first yard, containing 100 birds, died with typical lesions of blackhead. Entramin at 0·1 per cent. amino nitrothiazole concentration in the mash was started and continued for one week followed by three weeks at 0·05 per cent. These turkeys improved rapidly and as no more Entramin was available medicated mash was discontinued. Up to date, four months later, they have all remained healthy. In the other yard there were 150 younger birds and at about nine weeks old there were 60 showing symptoms of blackhead. The flock was put on to 0·1 per cent. medicated mash for one week and the really sick birds forcibly fed by means of a syringe with the mash twice daily, by the farmer. At each feed the crop was about half filled. All, including several very advanced cases, made complete recoveries. After a further three weeks on half concentration (0·05 per cent. amino nitrothiazole) the treatment was discontinued and the turkeys have thrived ever since, now a period of three months.

SUMMARY.—Two accounts of the field use of Entramin in blackhead infection in turkeys are given: one under laboratory supervision in 10 severe cases and the second under ordinary farm routine.

CONCLUSIONS.—The drug 2-amino 5-nitrothiazole is a most efficacious agent for this infection and no relapses occurred on highly infective ground.

REFERENCE

HORTON SMITH, C., & LONG, P. L. (1951.) *Vet. Rec.* **63.** 507.

REVIEW

[The Classification of West African Livestock. By I. L. MASON. (1951.) (39 pages, 38 illustrations, and two maps.) Published by the Commonwealth Agricultural Bureaux, Farnham Royal, Slough, Bucks. Price 10s. 6d.]

This little book, profusely illustrated with excellent photographs of the various types of livestock described in the text, forms a most valuable guide to the further study of the breeds of cattle, horses, sheep and goats found in West Africa.

The author has set out to form a framework around which may be built the further study of the subject. It is emphasised in the foreword that the classification is not intended to be a comprehensive survey of breeds, but rather a preliminary guide for identifying the many types met with in West Africa. He is wise in that he does not attempt to classify the breeds according to hypothetical origins but rather describes the types as they occur.

He describes under separate headings well-defined groups originating from crosses between breeds, where the evidence is strong that such cross-breeding has occurred consistently. Personally, it is felt that an accurate classification often becomes difficult or impossible as a result of cross-breeding. The introduction of a few exogenous bulls into an area can quickly alter the appearance of the original stock. The difficulty of classification is perhaps less pronounced when the author deals with the other species, for here there are fewer types with which to contend.

At the end of the book is an impressive bibliography which proves, if proof is needed, that Mr. Mason has spared no effort to correlate all the evidence presented by other writers in the territories concerned and so to make his classification on as broad a basis as possible. Two sketch maps aid the reader to follow the text.

ABSTRACTS

Effect of Aureomycin on Transplanted Tumours*

It is known that aureomycin has a growth-promoting effect in certain animals although the mechanisms of its action are not understood.

In view of aureomycin's growth-stimulating properties the effect of the drug upon certain transplantable tumours was investigated. The following tumours were used : rat carcinoma 175 G, Crocker rat carcinoma, mouse sarcoma 180, and mouse adeno-carcinoma E_0771. Aureomycin was given in daily doses of 1·6 mg. and 3·2 mg. per 100 g. bodyweight for 4, 7 and 10 days respectively. This dosage, which was based on human therapeutic doses, enhanced tumour growth. With larger doses there was, in some instances, complete disappearance of Crocker rat carcinoma one- to three-day transplants, but in 10-day-old transplants there was no inhibition.

In view of the enhancement of transplantable tumour growths in experimental animals the authors put forward the plea that caution should be exercised in treating cancer patients with aureomycin. It follows also that attention should be paid to the possible dangers attending the use of aureomycin as a dietary supplement to enhance growth in domestic animals.

The most important general conclusion to be drawn from the work described in this paper is that very much more work requires to be done on the actions of all the antibiotics and that indiscriminate usage of these substances is to be deplored.

A. R. J.

* **Effect of Aureomycin on Transplanted Tumours.** Sokoloff, B. & Eddy, W. H. (1951.) *A.M.A. Arch. Path.* **52.** 210–214.

* * * * *

Assay of Aureomycin in Milk by Use of Methylene Blue*

The authors point to the disadvantages of the usual milk assay method in which the test organism growth turbidity in dilution of whey from the sample being assayed is compared with the growth turbidity in broth containing a known quantity of aureomycin. These disadvantages are (*a*) the difficulty of obtaining a perfectly clear whey ; (*b*) the loss of aureomycin in the precipitated casein ; and (*c*) the difficulty of determining the end point in the higher dilutions of the sample.

The methylene blue assay method devised by the authors is a marked improvement over the whey method in that it overcomes the above disadvantages. In their technique 0·5 ml. of the whole milk sample is serially diluted through sterile methylene blue milk and topped with 1·5 ml. of a standard suspension of the test organism, *B. cereus* 5, in methylene blue milk. A standard series containing known concentrations of aureomycin is prepared in the same manner. Tubes showing bacterial growth are clearly indicated by a reduction of the methylene blue in the milk medium. From their report it would seem that the first tube in their assay series contains 25 per cent. less methylene blue than the remaining tubes in the series.

[In the abstractor's hands a similar technique presented two drawbacks which require controlling to guard against erroneous results. The high leucocyte content of mastitis milks can cause cellular reduction in the first few tubes, giving a macroscopic simulation to bacterial growth in these tubes. Lactinin—the natural antibacterial substance in fresh milk—may by itself inhibit the growth of the test organism in the first four or five assay dilutions and thus overlap the end point in milks of low aureomycin content.]

G. J. K.

* **Assay of Aureomycin in Milk by Use of Methylene Blue.** Schipper, I. A., & Petersen, W. E. (1951.) *Vet. Med.* **46.** 222–224.

* * * * *

Oedema Disease of Swine*

This disease is now of great economic importance among weaners and store pigs in Ireland and numerous experiments have been carried out to ascertain its cause. Investigation showed that no particular brand or kind of food was common to all the outbreaks ; husbandry was good in the majority of cases. Chemical analysis of the stomach contents of affected pigs gave negative results for metals, glucosides and alkaloids. Feeding pigs with meal derived from sources where the disease was rife produced no ill effects. The possibility of the disease being caused by an infectious agent (bacterial, viral, rickettsial) or by specific bacterial toxin (bacterial enterotoxaemia or toxaemia resulting from contamination of the food with a specific toxin) was next considered. Negative results were obtained from repeated cultural examination of various body tissues. No histological changes such as are encountered in an acute virus infection were found in the brain and spinal cord of pigs : in particular, stained sections of cerebellum and spinal cord from cases of Teschen disease were obtained from Czechoslovakia for purposes of comparison but none of the changes characteristic of that disease was present. Attempts to transmit the condition by exposing pigs to direct contact with affected animals or their freshly soiled litter and by means of lice were unsuccessful, as was the feeding of swill and other materials used on an infected farm. Feeding experiments, using viscera from affected pig carcases, and inoculation experiments with tissues and fluids, including the blood, of affected pigs, were also tried. The inoculations were carried out intraperitoneally, intravenously, intranasally and intracerebrally, but all the experiments failed.

D. J. A.

* **Oedema Disease of Swine.** Timoney, J. F. (1951.) *Irish vet. J.* **5.** 82.

BRITISH BREEDS DOG SOCIETY

In its issue of January 4th *Our Dogs* extends a cordial welcome to the above Society, expressing the earnest hope that the dog fancy in Great Britain is fully aware of the existence of the new dog club which is to operate as the British Breeds Dog Society, and adding: "*Our Dogs* has long cherished the hope that someone would eventually set out to foster the breeds peculiar to Britain.... It is badly needed, for it is sad but true that many fine breeds of British origin are being allowed to lapse into such obscurity that within a very short time they will have joined the Old English Terrier and the Bearded Collie in complete or partial extinction.

"To-day's economies are forcing upon show promoters the unpleasant necessity of discarding from their schedules classes for the breeds which do not pay their way, and the system of allocating challenge certificates on a registration basis tends to deprive some strugg ing breeds of the very inducement which will attract new exhibitors, and so the decline of such breeds is always accelerating. Our information about the new Society is so far brief, but we trust that it will manage to look after the interests of these "last-gasp" breeds as well as of the populars."

The Secretary of the Society is Miss Osborne, Shiel, Harrietsham, Kent.

* * * * *

Following the recent dipping of 30,000 sheep in the Peak district of Derbyshire, a number have been found dead on the moors. Farmers have protested against dipping during the cold weather, and the matter is being investigated by the R.S.P.C.A.

NOTES AND NEWS

Diary of Events

Feb. 1st.—Extraordinary General Meeting of Members of the British Veterinary Association, at the Connaught Rooms, Great Queen Street, London, W.C.2, 4 p.m.

Feb. 6th.—Special Meeting of the North Wales Division, B.V.A., at Ruthin (Council Chamber), 2 p.m

Feb. 8th.—Royal Dick School of Veterinary Studies Annual Ball, in the Assembly Rooms, George Street, Edinburgh.

Feb. 14th.—Glasgow University Veterinary Medical Association Annual Ball, at The Rhul, Sauchiehall Street.

QUARTERLY MEETINGS OF COUNCIL AND COMMITTEES, B.V.A.

Wednesday, January 30th, 1952

11.0 a.m. Home Appointments Committee.
2.0 p.m. Organising Committee.
4.0 p.m. Parliamentary and Public Relations Committee.
At 36, Gordon Square, London, W.C.1.

Thursday, January 31st, 1952

10.0 a.m. Veterinary State Medicine Committee.
1.30 p.m. General Purposes and Finance Committee.
At 36, Gordon Square, London, W.C.1.

Friday, February 1st, 1952

11.0 a.m. Council Meeting.
At the Connaught Rooms, Great Queen Street, W.C.2.

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R.C.V.S. OBITUARY

The Late Mr. Harry Steele-Bodger, M.R.C.V.S.

PERSONAL TRIBUTES

Harry Steele-Bodger—a great man—has passed away. But his work for the profession he loved will live on and live to be appreciated, more widely, at its true worth.

He was a veterinary surgeon of great experience, boundless enthusiasm and energy, and a grand leader of men—courageous and intrepid—the leader of a profession which in the initial years of the war appeared to have been reserved for some obscure and very frightening reason—so frightening that the real purpose of the profession and the contribution it could make to the war effort became very difficult to impress on the powers that be, or even on those directly concerned as the then leaders of the agricultural industry. The result was apathy and widespread unemployment within a profession which almost ever since has been reputed to be under-manned.

S.B.—as he was affectionately known—and his Survey Committee, working by day and by night and long into the night—in London, in Tamworth where the home he loved was turned into conference and committee rooms and even into an hotel, in York, in Edinburgh—brought to the profession its real vocation, the application of veterinary science in the light of the *complete pooling of the knowledge available both from the field and the laboratory* and directed to the maintenance and the expansion of the production of foods of animal origin for human consumption, with the emphasis on milk, as a major contribution to the war effort. He was the mainspring—there were many around him from all fields of the profession both within and without the Survey Committee who worked with him and for him.

His sense of the dignity of the profession and of its purpose, which he was determined would eventually be understood even by those who should have had no difficulty in understanding and yet took so long to do so, his boundless faith, energy and generosity, his wit and gift of repartee, and his strong qualities in argument and debate, made him the natural leader of the veterinary profession in those dark days of war.

How he worked! How he burned himself up! And how he fought for the profession—only those fortunate enough to be in intimate contact are fully aware. But even those who could not see his vision of the profession of to-day and even of the future were made well aware of it by his persistent exhortation and agitation.

One day it may be possible to record objectively the re-orientation of the profession wrought with S.B. as leader—to the ultimate goal of the veterinary surgeon as the "physician of the farm," adviser on health and responsible for its maintenance with the emphasis on the herd or flock, on production and efficiency, and the fullest possible application of preventive veterinary medicine in the light of the knowledge available at any given time.

The result of his labours had marked repercussions. The readiness with which the farmers of the country accepted the possibilities of applied veterinary science taken and expounded to them quite literally in the market places by S.B. and others—the institution of the Survey Scheme—his "baby" and what a marvellous achievement under war conditions—created an unprecedented demand for veterinary services on the farm in the struggle for the nation's food.

Those veterinary surgeons who preferred not to operate the Scheme owed to Steele-Bodger the opportunity afforded them to apply the products of the work of the Survey Committee.

Strain 19 vaccine demanded by the Committee and flown from America in a bomber—fought for and obtained only after delegations to the Agricultural Research Council and the Medical Research Council, led by S.B.—had convinced both (in those days austere) bodies that the demands were rational and scientifically sound and a reasonable risk for widespread application in the nation's dairy herd. "War-time is the time to take such risks," said the late Sir Joseph Barcroft, and lent his support to the case presented.

More than 400 veterinary surgeons were visited in their own practices and given a post-graduate course in pregnancy diagnosis and treatment of infertility and other problems discussed—the majority by S.B.—after it was found that the number of those known to be practising pregnancy diagnosis and treatment of infertility as understood in those days, and both able and willing to communicate that knowledge, was so pitiably small.

The teaching colleges were suddenly galvanised into a changed activity and impressed with the requirements of the immediate present and the future. No one can deny the different emphasis which resulted.

All these were S.B.'s achievements.

His name will live on as the founder of modern veterinary farm practice.

There are many who remember him best as their appointed leader, their driver who drove none so hard as he drove himself—a most lovable and sincere man and a wonderful host.

He was the man who, when a delegation visited the Controller of Petroleum Products at Lytham St. Anne's after an early morning cross-country journey from Nottingham, where a conference and demonstration had been held the previous day, was met with the remark from the Controller himself: "I suppose you have come like all other delegations to tell me the old story that you must have at least as much petrol as you had before the war or you cannot carry on—I can tell you it is impossible," and replied "No! we have a new story for you—the veterinary surgeon will require at least 50 per cent. more." S.B. then expounded the gospel of applied veterinary science as a contribution to food production and the meeting ended in the assurance which resulted in petrol being available for all farm practice during the war years and after.

His wit and versatility were well exemplified in his delightful reply in verse to the presentation made to him, also in verse, by Lady Anne and Sir Weldon, friends of his of many years standing, of the Dalrymple-Champneys Cup in 1945 in recognition of his work for the profession and the contribution he had made to its progress.

I saw him but a few days before he died. He knew his time was short. We talked of "old times"—those "grand" days of a *mere* 8 to 12 years ago. How much accomplished, how much taken for granted, how much forgotten. He was happy to have played the part he had played for the profession—he was actively interested in individual cases in his practice, still concerned with the real purpose of his profession and with apathy in its ranks, still unsatisfied that the profession had reached the objective he sought, anxiously concerned with the progress of the university schools and with the affairs of the "National" and the R.C.V.S.

Harry Steele-Bodger's name will live on as the outstanding man of his generation. His work for the profession can never be equalled. Never will one man have such a profound effect on the whole profession.

To his widow the whole profession will join in saying "Thank you—you played a wonderful part in the history of the profession created by a great veterinary surgeon. Without you he could not have completed his task."

G. N. G.

I want to take this opportunity of paying tribute to "The Boss," as Mr. Steele-Bodger was affectionately called by all those round Tamworth, both past and present. Many people will write about his great achievements and his outstanding personality, but some things about his life and character will be appreciated fully only by those who had the privilege of working in the Tamworth practice. Sometimes as we struggled to keep up with him we wondered if it was a privilege(!), but none would deny that his example was an inspiration. Many imagined he was a superman and tireless, but he was not. He contended that all urgent work must be completed, and completed to the best of one's ability, before one thought of food or sleep, and if eventually there was no time, well that was just too bad and he went on without. It must also be recorded, however, that his sense of fun was tremendous and at Tamworth we played with the same enthusiasm as we worked.

Another characteristic was his generosity of mind, in taking students of any race, colour or sex, at a time when many other veter

inary surgeons were less broadminded. He also allowed, in fact encouraged, one of his assistants to sit on the Council of the N.V.M.A. for the last three years of the war, at a time when many another principal would not spare assistants to go even to Divisional meetings. Proof of his adaptability is shown in the fact that he was able to take as partner an assistant of eight years' standing and immediately adjust himself to the new position so that there was never once any feeling of inequality, and when there was disagreement there was discussion but never any loss of temper —in fact that partnership must have been amongst the happiest in the profession.

Those who saw Mr. Steele-Bodger during the last few months of his illness will never forget his courage and his cheerfulness. When he was first taken ill he fretted and fumed as does any active man, but once he realised the inevitable he set himself to squeeze as much as possible out of the life that was left to him, and therefore up to the end few people realised how ill he was and all enjoyed and benefited by his company. W. M. B.

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Mr. E. P. Barrett, of 28, Stoke Road, Guildford, writes: "May I be permitted to use *The Veterinary Record* to pay a tribute to Harry Steele-Bodger, who died on January 11th, and whose going represents to me, as it must to many thousands of others, both friends and acquaintances, a very great personal loss.

"My first contact with him was in 1940 when I became an assistant in his practice, an unforgettable and invaluable experience, which continued until 1944. I have indelible recollections of those days, of his vivid personality, of his wonderful charm that could move mountains, of his friendliness, his boundless sense of humour, his unfailing helpfulness and encouragement, and his enormous energy; and finally his great enthusiasm for veterinary practice and the welfare of the veterinary profession. He was a man of no half shades. He went all out for what he believed in, and spared neither himself nor those associated with him. All we who knew him well, loved him and greatly mourn his loss."

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Mr. Trefor Ll. Griffiths, of Southsea, writing as this year's President of the Midland Counties V.M.A., says: "The passing of H. W. Steele-Bodger will be felt most keenly by the entire veterinary profession and not least by the Midland Counties Veterinary Medical Association. For many years he had been a staunch supporter of this Association and had filled the Presidential chair with his customary dignity and charm. Our meetings were always more successful when he was present, his skill and energy as a veterinary surgeon being matched by his eloquence and wit in public speaking. The country has lost a great veterinary surgeon, the profession a valued member, and we have lost a dear friend."

. . . . . .

In the passing of Henry William Steele-Bodger, known and beloved as "S.B.", the veterinary profession has lost one of its most colourful characters of the last 30 years, if not of all time. Although well known to the vast majority of veterinarians in this country, to many abroad, and to thousands of agriculturists, it was those who were privileged to work in close touch with him, in the field and in committee, who had full opportunity to appreciate his sterling qualities. History will show what we as a profession owe to Harry Steele-Bodger. Much that he achieved for us was gained at the expense of his own health and pocket. He was generous to, a fault. Those who had the honour to serve under him on the Survey Committee know full well his contribution to the labours of that Committee in terms of leadership, clinical experience, loss of sleep and money. The memory of those stirring days reminds us of the untiring energy of Mrs. Steele-Bodger in the entertainment of working parties at Tamworth, sometimes week-end after week-end. The subsequent prosperity of the profession and its very material contribution to the national well-being during the desperate emergency of the war years was due in no small measure to the efforts of the Survey Committee, whose life blood in turn sprang from S.B.'s enthusiasm, example, inexhaustible energy and, above all, from his phenomenal ability to get the maximum response from his colleagues.

S.B. was a clinician of outstanding ability. Every case afforded him much interest and material for careful consideration. He was always prepared to go to great lengths in having the advantage of another opinion, in providing material for specialist diagnosis and in determining the value of new procedures and remedies. His assistance to the laboratory worker in obtaining specimens for investigations and in recording accurate observations set a standard few have attained. His competence was such that he saw his mistakes, changed his views and readily admitted, even broadcast, that his practice of the past must be modified or discarded. He gave his services to interests ancillary to the profession with a skill and freedom that did much to enhance the prestige of his calling.

Henry Steele-Bodger was a great admirer of the late Principal Charnock Bradley and the late Professor Folmer Nielsen and appeared to model his life on the best he had found in these distinguished veterinarians whose influence he felt in his early formative days. Like them, he was ever ready to do all he could for the man who lacked experience but was willing to learn. Many will remember the days when he travelled a large part of Britain providing instruction in pregnancy diagnosis and infertility control in cattle. On the other hand, like Folmer Nielsen, he did not "suffer fools gladly." As a debunker he was masterly when dealing with those assertive people—so positive, despite their views being based on uncertain ground. He was no respecter of persons, and such a master of repartee was he that his criticism could be particularly effective.

It is difficult to imagine how his place can be filled. The profession is much the poorer by his passing. In offering sympathy to Mrs. Steele-Bodger and her sons, it is appreciated that their loss has left a void which is felt not only at Tamworth but in the wide circle in which "S.B." was known and loved.

R. F. M., S. L. H.

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In a profession whose main failing (it has often been alleged) is its apathy, and in a generation which suffers (in the eyes of many of those who were nurtured in an older and happier one) from dullness, Harry Steele-Bodger in his day shot across the firmament as one tremendously alive. Endowed conspicuously with that quality of vitality, he rendered precious service to his profession during a most trying, testing period.

He was, in the full sense of that term, a *general practitioner*. He had to earn his living by the exercise of his profession and it was from such earnings that he had to find the means to give back to the profession, as hardly anyone else has contrived to do, that added *force vitale* without which infusion of spirit (as we can now better discern) the profession in a time of acute crisis readily could have foundered.

The period during which he lived and rose to the height of his achievements coincided with one of the gravest periods ever traversed by the profession in the course of its long and troubled history. Superimposed upon a phase of violent transition in our civilisation when, with the further rapid yet spasmodic progress of the industrial revolution, horsed traction was fated to be supplanted by the newer wholly mechanical means of transport and motive power, there occurred the catastrophes of two world wars. In the first of these the primary function of the veterinary profession (as it had been since about seven or eight centuries before the Christian era) was to ensure the mobility of armies in the field through its skill in ministering to the care and health of horses. In the second, breaking out as it did within an interval of less than a generation, something entirely different was expected from the profession as a main function if it was to express itself effectively in the service of the public and survive.

The years during which Mr. Steele-Bodger occupied the Presidential chair of the N.V.M.A. were exactly the period when the profession was being put upon its most severe trial. The various schemes then launched or envisaged, to *experiment* vigorously on readjustment, such as the Survey Scheme, were, in themselves, bold and fine conceptions. We certainly do not need to dwell upon their merits, or upon their fate with the passing of time, at this present moment: we can but rejoice at the outcome and bask in the sunshine of the many blessings that have since come to us.

Fortunately, since the "National" had become constituted upon a federal basis, in 1921, it had reached, by 1939, that stage of political maturity when it could, deftly handled, withstand much strain. But, let us never forget, it was Mr. Steele-Bodger himself—largely at his own personal expense, sparing nothing in the shape of physical effort or emotional ardour, but having the most complete faith in the exalted mission of the institution over which he presided—who housed its organisation on his premises during those terribly critical days which marked the opening phases of the second world war.

Mr. Steele-Bodger was, as everyone knows, blessed in having a wife who no less than he did, dedicated herself to the service of the veterinary profession. Without her constant support and business acumen it is hard to imagine how a man of his sensitive, mercurial and over-generous temperament could have succeeded, or even survived, to prosecute his enterprises. It must have been to them both a happy consummation of their mutual endeavours to see their sons follow worthily in their father's practice.

There is a great deal more that could well be said regarding the other moral, consummation, to the achievement of which Mr. Steele-Bodger, in his day, applied his indefatigable energy and indomitable zeal—which was, in effect, to the asserting of the rightful place of the veterinary profession in a lasting union between our native, and much neglected, agriculture and the proper feeding of our own peoples. As a figure, for example, at the International

XUM

Horse Show (indeed, in what he did in securing for its owner the purchase of one of the greatest show jumpers of all time), and as a splendid writer to this journal upon the significance of the events at that Show, he demonstrated to perfection how diverse in nature and varied in scope are the demands made by the animal-loving British public upon the services of the general practitioner—"the backbone," as he has been called, "of the British veterinary profession."

In the "chain of progress," we may always rest assured that the general practitioner will remain an essential link. And so, while there are still abroad among us in these islands, within the veterinary profession, men (and women) who are ready and eager to serve the public as general practitioners, who are endowed with a measure of the ability of Mr. Steele-Bodger in this respect, and who, moreover, are imbued, too, with some of his self-sacrificing zeal, nothing can impede our progress. But that happy outcome can only be attained in the measure that we—all of us—display in the service of our cause, that last named and finest of his gifts, for which he will remain a shining example to posterity. J. T. E.

. . . . .

As one who was a neighbour of Steele-Bodger for 17 years, I should like to add a word of appreciation of a unique, outstanding and lovable personality.

During the early days of The Society of Veterinary Practitioners, we travelled many miles together, and it was perhaps during these trips that I came to appreciate fully his vigour of spirit—tinged with aggressiveness when the occasion demanded it—his varied and singular gifts together with his kindness and deep humanity.

The first of these attributes is well illustrated by a simple occasion. We had stayed the night at a large North Country hotel and were obtaining our bills in the morning. I could see Steele-Bodger's brow darken and that the fighting spirit had been aroused. He remarked to me, "I absolutely refuse to pay for a bath, on principle." Most of us would have taken the line of least resistance but to him a principle was at stake and nothing else mattered. The Receptionist could do nothing about it so the manager was summoned. I must confess to feeling a little self-conscious. Not so my friend, who handled the matter with perfect ease and serenity. The manager was profuse with apologies and all ended happily.

At times one wondered why he bothered with hotels at all, for he seemed to require little sleep and when our business together was frequent, it was essential to have a 'phone by one's bedside. I think the latest or earliest he rang me was 3 o'clock in the morning. On one occasion at Edinburgh, we were leaving a friend's house in the "early hours" when he insisted on mending the grandfather clock.

He was a staunch friend and on one occasion I remember his coming the 20 miles from Tamworth, late one Sunday evening, because he was anxious to advise me on an urgent personal matter.

While I am sure Steele-Bodger's spirit will always remain with us, our deepest sympathy goes out to his wonderful wife as well as his well-known sons. O. V. G.

. . . . .

Dr. E. L. Taylor, of Weybridge, writes: "It must be left to others who were more closely associated with his work to give an account of what Harry Steele-Bodger did for the advancement of our profession, but I should like to add a few words in an altogether inadequate attempt to express my personal appreciation of him as a leader and a friend.

"Was there ever anyone more alive! To me, and I am sure to many others, he was a revelation. How well we shall remember that joyous vivacity that seemed to have no end!

"His vision also seemed to me to be considerable, but more to be acclaimed was the zest with which it was put into effect. He drew everyone in, not so much by forceful persuasion as by example and the irresistible invitation of a vigorous, gay and sparkling personality that made it a pleasure to join in the work. It was the kind of leadership that was a joy to follow and one that was continually helped by a warm friendship and by many kindnesses on the way.

"Genius of that kind is a rare thing and is very precious; it not only sheds a light on those who are immediately around, but gives a greater significance to the concerns of the moment. Because he was so much alive he seemed to absorb all there was to be absorbed, to show a more than normal sensitivity in response and to give a colour to passing events to fix them in our recollection.

"This indelible impression must have affected a very large number of people and to many of us he will remain an inspiration throughout the rest of our lives."

. . . . .

A sense of deep personal loss and loss to the profession would make this a moment for silent tribute and mourning were it not for the fact that he and I were officers of the Association in one capacity or another throughout Harry Steele-Bodger's greatest period of professional activity. Others will have written of his energy, his enthusiasm, his generosity and personal sacrifice and his exceptional powers of leadership. I wish to pay tribute to his tireless work behind the scenes, his indefatigable and prolonged efforts to make contacts and friendships on benalf of the profession, and his patience in lengthy private discussion despite his apparent superficial intolerance of opinions different from his own. He would press colleagues to expound their points of view, to bring forward facts to substantiate their arguments, and he would readily change his view if such arguments proved convincing. But the origination or adoption of ideas was never sufficient for him: he would press for speedy action when those ideas indicated a progressive path for the profession. He was one of the first to announce publicly his full support of the recommendations of the Loveday Committee concerning university education and the true function of the veterinary surgeon as "the physician of the farm." He then threw himself wholeheartedly into advancing these ideals. His activity was so great that throughout the fight he was in the limelight, but when the battle was fought and the result was accepted by most he quietly withdrew and let others of more recent conversion receive the praise for guiding the profession into the universities.

Those of us who were privileged to work closely with him will always remember with gratitude his cheerful comradeship, his stimulating leadership and his unfailing sympathy and help in time of need. A great man among men, a man full of charm, humour and grace towards women; above all, a man whom the profession can ill afford to lose and to whom it will ever owe an immeasurable debt.

. . . . .

W. R. W.

Mr. E. Keith Robinson, Secretary of Our Dumb Friends' League, writes: "May I add my tribute to the late Mr. H. Steele-Bodger, not so much as a veterinary surgeon, but as a man?

"I came to know him very well during the war years, when we sat on the N.A.R.P.A. Committee. His unfailing good humour and common sense, even under difficult circumstances, endeared him to us all.

"His passing leaves a gap, not only in the ranks of veterinary surgeons, but in the country as a whole."

. . . . .

The Funeral Service

Vicar of Tamworth's Tribute

The esteem and affection in which Mr. Steele-Bodger was held throughout the country was reflected in the large attendance at the funeral service in St. Editha's Parish Church, Tamworth, on the morning of Tuesday, January 15th.

In the course of a moving address the Vicar, the Rev. G. C. Batten, said:—

Fifty-five years as we measure time is not a long life, but Henry William Steele-Bodger did not measure life that way. He was one of those who was so fully alive that life was measured by its intensity not its extension in years. He loved life and lived it to the full, spending himself in the service of life.

To love life is, of course, to love living things. He was particularly fond of flowers and during his illness was able to indulge something of this love as he was surrounded by flowers. Animals too, he loved from boyhood. Those of you who are farmers, those of you who are connected with hunts, and those who are fellow members of his profession will know far better than I can tell you his eager, enthusiastic interest. Those of us who have our household pets also know that for them he gave of his best. Of course he did, because he had no second-best to give. He had only the best for everything and everybody. It mattered not whether the living creature were thoroughbred or thoroughly mongrel, he reverenced them all and served them all.

He served his country, too. During the first World War, at the age of 17, he held a responsible position in a hospital for horses which numbered 2,000 patients. Later, as an officer in the Royal Field Artillery, he was wounded and gassed. In the second World War he was Chairman of the Survey Committee of the National Veterinary Medical Association, so largely responsible for "stepping-up" the milk supply of this country. For two years running he was President of the Association. He had reached the top flight of his profession, and his fame has gone out into all the world.

He has literally worn himself out in service—could he ever say no to any appeal for help? Kindly always, he never thought about himself. Returning home late at night he would work on in order to save some life, or attend to some business which would he'p his fellow-men, and then, with only a few hours' rest, would start off again very early in the morning to continue his service to others. Life just flowed through him like a healing river. Behind it all there was a deep, strong, simple faith. Those who knew him most intimately can say with truth he "walked humbly before his God."

The principal mourners were: Mrs. K. Steele-Bodger (widow),

Mr. and Mrs. A. Steele-Bodger (son and daughter-in-law), Mr. M. R. Steele-Bodger (son), the Rev. John Bodger (brother), Dr. D. MacDonald (brother-in-law) and Mrs. MacDonald, Mr. A. MacDonald (nephew), Mr. D. MacKay (cousin), Captain A. Finlayson, Miss W. M. Brancker, Mrs. W. Brancker, Miss K. M. Grant, Miss J. Taylor, Mr. and Mrs. G. N. Gould, Mr. James Brown, Mrs. J. M. Grant, Mr. R. D. Taylor, Mrs. W. L. Dwerryhouse, Mrs. J. M. Rorrison, Mrs. E. P. Barrett and Mrs. R. H. Goodhand. The bearers were all former assistants—Messrs. W. L. Dwerryhouse, J. M. Rorrison, E. P. Barrett, R. F. Armour, W. G. Blythman and R. H. Goodhand.

In the unavoidable absence of the President, Professor J. G. Wright, the Royal College of Veterinary Surgeons was represented by Mr. Howard Dawes, Past-President, with Mr. W. G. R. Oates, Registrar. Representing the British Veterinary Association were Mr. A. J. Wright, President, Mr. F. Knight, General Secretary, Mr. S. F. J. Hodgman, Immediate Past-President, and Mr. J. W. Bruford, Past-President. Professor W. M. Mitchell represented the University of Edinburgh Royal Dick School of Veterinary Studies and Mr. S. Jennings the Royal Dick Alumnus Association.

Major F. Chambers (Midland Counties Veterinary Association); Mr. D. A. Lake and Mr. W. H. Carr (East Midlands Veterinary Association); Mr. W. K. Hunter (South-east Midlands Veterinary Association); Mr. G. S. Muir (Eastern Counties Veterinary Association); Mr. George Eaton (Lincolnshire Veterinary Association); Mr. S. L. Hignett and Dr. R. F. Montgomerie (Sussex Veterinary Association and the Wellcome Foundation); Mr. T. M. Doyle, representing the Director, Weybridge Veterinary Laboratories; Mr. E. R. Corrigall, West Midlands and Wales Superintending Veterinary Officer; Mr. A. M. Mullen, Staffordshire Divisional Veterinary Officer; Mr. J. M. McKellar, Derbyshire Divisional Veterinary Officer; Mr. S. V. Collard, Warwickshire Divisional Veterinary Officer (Ministry of Agriculture); Major J. J. Dunlop (Society of Practising Veterinary Surgeons); Mr. R. S. Roberts (Association of Veterinary Teachers and Research Workers); Miss O. Uvarov (President, Central Veterinary Society); Miss J. O. Joshua (Society of Women Veterinary Surgeons); Dr. W. R. Wooldridge and Professor Wm. C. Miller (Animal Health Trust).

Captain J. R. Barker, Mr. R. H. Owen, Mr. W. Newery, Mr. T. N. Gold, Mr. H. W. Griffiths, Mr. G. Matheson, Mr. J. Ritchie, Mr. A. V. B. Foster, Mr. W. B. Brownie, Mr. R. Williams, Mr. W. Scott, Dr. G. B. Brook, Captain and Mrs. W. T. Olver, Mr. and Mrs. V. Tyerman, Mr. N. M. Black, and Miss Rosa Smith.

Mr. W. F. Hart (representing Sir James Turner, President of the National Farmers' Union, and the Lichfield Rural District Council); Mr. W. L. Hemus, Chairman, Mr. J. B. Stonier, Vice-Chairman, and Mr. R. H. Robinson, Secretary (Tamworth Branch of the National Farmers' Union); Mr. P. H. Mercer, Chairman, Mr. James Wilson, Vice-Chairman, Mr. George Parker, Secretary, and Mr. W. F. T. Willcocks, Treasurer (Tamworth Agricultural Society); Mr. J. Davison (Alrewas Agricultural Society); Mr. T. Hodgkin, Chairman, and Mr. F. W. Axten, Secretary (Lichfield Branch of the National Farmers' Union); Mr. E. Garland, Mr. J. R. Couch and Mr. H. V. Vero (Atherstone Horse Show Society); Alderman Frank Cattell (Sutton Horse Show Society); Mrs. D. W. Whitehead and Mr. E. J. M. Mortimer-Matthews (British Show Jumping Association); Mr. A. E. Millner Mr. F. J. B. Hookins and Mr. J. A. Collins (South Staffordshire Hunt); Mr. J. B. Dawson (South Staffordshire Hunt Pony Club); Mr. A. E. Bath (United Retrievers' Club). Mr. A. E. Blackburn and Mr. L. P. Miles (Tamworth Canine Society); Mr. E. Fisher (Sutton Equitation School).

Mr. S. W. Dewes (Tamworth Rural District Council); Mr. H. Birchwood (Inspector) and Mr. W. H. Patrick (Ministry of Food —Tamworth Slaughterhouse); Mr. F. J. Haskew and Mr. V. Wilson (Staffordshire Farmers Ltd.); Mrs. Thorneycroft (Conservative Association and Rugeley Canine Society); Mr. R. B. Dixon (Messrs. C. Herbert Smith and Russell, and Messrs. Jerome and Company, Birmingham); Mr. H. C. Trow (Messrs. Edge and Ellison, Birmingham). The general company, numbering several hundreds, included Mr. H. Pendred (representing the Earl and Countess of Shrewsbury and Waterford), Colonel and Mrs. G. H. Anson, Brigadier Pring, Mr. Harry Brown (representing Captain W. S. Dugdale), Colonel Eric Jones, Dr. R. Francis Jones, Dr. J. V. L. Grant, Dr. F. W. Marshall, Dr. and Mrs. P. W. Parkes, Dr. Barry Jones, Dr. A. I. McKendrick, Dr. Greville Hovle, Mr. P. Dawson Edwards.

The floral tributes included tokens from: The President and Council, Royal College of Veterinary Surgeons; The President, Council and members of the British Veterinary Association; The Lincolnshire Veterinary Association; The South-Eastern Veterinary Society; The Society of Practising Veterinary Surgeons; The Sussex Veterinary Society; The South Wales Veterinary Association; The Eastern Counties Veterinary Society; The South-East Midlands Veterinary Association; The East Midlands Division, British Veterinary Association; The North of England Division, British Veterinary Association; The Midland Counties Veterinary Medical Association; The Central Veterinary Society; The University of Edinburgh Royal (Dick) School of Veterinary Studies; The University of Glasgow Veterinary School; The Royal (Dick) Alumnus Association; The President and members of Council, National Farmers' Union; The Lichfield Branch, National Farmers' Union; The Tamworth Young Farmers; The Tamworth and District Agricultural Society; The British Show Jumping Association; The Royal Sutton Coldfield Horse Show Society; The South Staffordshire Hunt; The Sutton Riding School; The Lichfield Riding School; The Solihull Riding Club; The South Staffordshire Hunt Pony Club; The North Atherstone Hunt Pony Club; The British Alsatian Association; The United Retriever Club; The Tamworth Canine Association; The Sutton Coldfield Canine Association.

After cremation at Perry Barr Crematorium, the ashes were buried at Stoke Poges gardens of remembrance, on Friday, January 18th.

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The Late Mr. S. E. Sampson, M.R.C.V.S.

Mr. Stephen Ernest Sampson, of 47, Holme Lane, Sheffield, whose death on December 14th, 1951, at the age of 75 years, we recorded with much regret in our issue of December 29th, had a distinguished academic career, being a Fitzwygram Prizeman when he qualified at the London College in 1900. He went straight into practice in Sheffield, where he soon made his name as an able veterinarian, respected alike for his competence and his upright character. His abilities brought him early to the fore, also, in the local corporate life of the profession. Mr. Sampson joined the Yorkshire Veterinary Society in 1906, and by 1910 had achieved the Vice-Presidency, while the Society accorded him its highest honours from 1917 to 1920, when he was President. In 1949, when to their great regret the members learned that he was not in good health, they made him an Honorary Associate.

Mr. Sampson took a great interest in farming and was himself an agriculturist, becoming a prominent member of the Sheffield Branch of the National Farmers' Union.

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R.A.V.C. Division of the B.V.A.

Inaugural and first meetings of the Division were held at the Royal Veterinary College, N.W.1, on Wednesday, January 16th, 1952, by kind permission of the Principal.

Brigadier A. G. Heveningham, O.B.E., was in the chair and, altogether, 47 members of the profession were present.

The meetings were addressed by Mr. A. J. Wright and Sir Thomas Dalling and three films in colour were shown with a narration by Mr. G. Knight, of the Royal Veterinary College. Full reports will appear in the Supplement to *The Veterinary Record* in due course.

Tea was taken after the meeting by approximately 40 members.

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PERSONAL

Appointments.—The following appointments in the Colonial Veterinary Service are announced: Of Mr. J. L. Early, M.R.C.V.S., as Veterinary Officer, Nyasaland, and of Mr. G. B. Symonds, M.R.C.V.S., as Veterinary Officer, Uganda.

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Doctorate for Mr. C. Horton-Smith.—At a recent graduation, the Vice-Chancellor of London University conferred (*in absentia*) the degree of Doctor of Philosophy on C. Horton-Smith, B.SC., Senior Scientific Officer of the Animal Health Trust's Poultry Research Station at Houghton, Hunts. This was awarded for a thesis on "Epidemiology and Therapy of Avian Coccidiosis."

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Birth.—Leftwich.—On January 9th, 1952, at the Yarborough Nursing Home, Southsea, to Bridget, wife of R. B. W. Leftwich, M.R.C.V.S.; a daughter.

Forthcoming Marriage.—Forsyth-Freeth.—The engagement is announced between Harry Forsyth, M.R.C.V.S., only son of Mr. and Mrs. J. P. Forsyth, of Rutherglen, Glasgow, and Stella Mary Freeth, only daughter of Mr. R. Freeth and the late Mrs. Freeth, of Dudgrove, Fairford, Glos.

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BRITISH VETERINARY CODEX

At the meeting of the Council of the Pharmaceutical Society held on January 8th and 9th, the report was received of a meeting of the above Committee held on December 12th, 1951, under the Chairmanship of Mr. C. W. Maplethorpe. The report showed that the Hormones Sub-committee had commenced its work and that the work of the Biological Products, Action and Uses and Formulary Sub-committees was well advanced.

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ADDRESSES OF DISEASE-INFECTED PREMISES

The list given below indicates, first, the county in which are situated the premises on which disease has been confirmed, followed by the postal address and date of outbreak.

Anthrax:

Angus.—Milton of Conon Farm, Carmyllie, Arbroath (Jan. 14th).

Ayrshire.—Hobsland Farm, Monkton, Prestwick (Jan. 14th).

Herefordshire.—Old Court Farm, Bosbury, Ledbury (Jan. 11th).

Lancs.—Jolly Fold Farm, Higher Walton, Preston (Jan. 12th; Liscoe Farm, Out Rawcliffe, Preston (Jan. 17th).
Lincs (*Lindsey*).—Hall Farm, Glentworth, Lincoln (Jan. 11th).
Salop.—Knackery, Fordsheath, Shrewsbury (Jan. 15th).
Yorks (*W.R.*).—Knackery, Trobell Street, Barnsley (Jan. 14th); The Knackery, Kirkhamgate, Wakefield (Jan. 16th).

FOOT-AND-MOUTH DISEASE:
Kent.—Sandwich Bay Marshes and New Downs Farm, Sandwich (Jan. 19th).
Leics.—Moss Deeping, Frisby-on-the-Wreake, Melton Mowbray (Jan. 14th); Car Farm, Frisby-on-the-Wreake, Melton Mowbray (Jan. 16th).
Yorks (*E.R.*).—Beverley Farm, Hornsea, Yorkshire (Jan. 17th).

FOWL PEST:
Lancs.—All at Preston: Langton's Farm, Wrea Green (Jan. 11th); Raveld House Farm, Freckleton, and Farrer's Farm, Grange Lane, Hutton (Jan. 15th); The Bungalow, Taylor's Farm, Chapel Lane, New Longton, Preston (Jan. 16th).
Rose Villa, Smithy Lane, Mawdesley, Ormskirk (Jan. 15th); 5, Off Summer Street, Stormy Corner, Skelmersdale, Ormskirk (Jan. 16th).
Norfolk.—The Bungalow, Eccles, Quidenham, Norwich (Jan. 12th); North View Farm, Mattishall, Dereham (Jan. 15th).

SWINE FEVER:
Cambs.—Merton Farm, Gamlingay, Sandy, Beds (Jan. 17th).
Glouc.—Lower Farm, Saintbury (Jan. 15th).
Herts.—Culverwood Farm, Little Berkhamsted (Jan. 9th); Chalk Farm, Sawbridgeworth (Jan. 12th); 124, Tom's Lane, King's Langley, Ware, and The Garage, High Cross, Ware (Jan. 15th).
Kent.—Studholme, East Studdale, Dover (Jan. 14th).
Lancs.—Albert Royds Street Piggeries, Rochdale (Jan. 9th); Lynwood, Pine Avenue, Little Hoole, Preston (Jan. 16th).
Oxon.—Woodlands and Hollies Farms, Souldern, Bicester (Jan. 17th).
Staffs.—Grange Field Piggeries, Cobridge, Stoke-on-Trent (Jan. 16th).
Suffolk.— (*E.*).—Wisteria House, Brantham (Jan. 9th).
Warwicks.—Lawford Heath Farm, Church Lawford, Rugby; Court Farm, Temple Grafton, Alcester (Jan. 14th).
Worcs.—Bleakhouse Farm, Station Road, Wythall (Jan. 9th); The Laurels, Redditch Road, Hopwood (Jan. 14th).

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The programme has been issued of the Laboratory Animals Bureau Congress, to be held at Cambridge on Monday and Tuesday, March 31st and April 1st. Admission to the Congress is restricted to Animal and Laboratory Technicians and is by invitation only. Enquiries for particulars and applications for invitations should be addressed to: Laboratory Animals Bureau, M.R.C. Laboratories, Holly Hill, Hampstead, London, N.W.3.

CORRESPONDENCE

The views expressed in letters addressed to the Editor represent the personal opinions of the writer only and their publication does not imply endorsement by the B.V.A.

ALLEGED OVERSTOCKING

Sir,—As an old practitioner I was concerned to read the conflicting professional evidence in your report of a recent unsuccessful prosecution by the R.S.P.C.A. As a one-time magistrate I know from actual experience how ignorant the average magistrate is when it comes to technical scientific knowledge: therefore it is highly important that professional evidence should not be contradictory in such cases. It is very difficult to prove actual pain in a dumb animal such as a cow, but I doubt whether any doctor would go into a witness box and swear that an overstocked cow was free from pain. He would say "Ask any nursing mother." Not for a moment would I contend that a cow is as sensitive as a human being; on the other hand, cows have been bred to produce supernormal quantities of milk over abnormally long periods of lactation, resulting in over-sensitive udders. I sometimes wonder if these young practitioners study animal expression as we did and could after years of observation and experience.

While motoring in the South of France I observed the utter weariness expressed more especially in the eyes of cows which were working hard in the carts and were being regularly milked, leaving them hardly sufficient waking hours to consume sufficient food. I observe the same weariness in the heavy milkers in pedigree dairy herds in this country.

I trust that students still read all that Darwin wrote: especially, "The Expression of the Emotions in Man and Animals." In this he says "Cattle and horses suffer great pain in silence."—Yours faithfully, R. GLAVE SAUNDERS, Exmouth.

NUTRITIVE VALUE OF COLOSTRUM FOR THE CALF*

Sir,—An abstract of this paper (* *Brit. J. Nutrit.* **5.** 171. (1951.)) with the title incorrectly given appeared in your issue of January 5th (*Vet. Rec.* **64.** 1, 11. (1951.)). The abstractor's remarks in square brackets imply that we were not aware of the significance of the experimental conditions chosen by us. By placing in the calf pens susceptible animals from different farms, we have deliberately set up an infected environment in which each calf automatically becomes an indicator of the protection afforded by colostrum or its fractions; this procedure is preferable to any method of artificial infection. As we state in a subsequent paper (*Brit. J. Nutrit.* **5.** 343. (1951.)), "It is also possible that the calves . . . were exposed to a greater risk of infection, owing to the presence in the calf pens of susceptible calves from many different farms, than is likely to occur under normal farm conditions."

We are surprised that the name *Bacterium coli* used by us should have been changed in the abstract to *Escherichia coli*, which is neither in accordance with general usage in this country nor has been accepted at international congresses.—Yours faithfully, C. A. E. BRIGGS, National Institute for Research in Dairying, Shinfield, Nr. Reading. *January 9th*, 1952.

[Our abstractor was not concerned in either the incorrect rendering of the title or the alteration of name of the organism.—*Editor.*]

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AMPHOTROPIN IN THE TREATMENT OF HARD PAD DISEASE

Sir,—Miss Milne's letter on the subject of amphotropin therapy in the treatment of hard pad disease, appearing in a recent issue of the *Record*, prompted me to examine my records of suspected cases of the disease treated with amphotropin during the past 12 months. During this period 84 dogs have been treated with this compound and 54 (64 per cent.) showed clinical recovery in 10 days or under. It is interesting to note that of the group that recovered only 35 per cent. were under 12 months old, whilst of the group showing a fatal termination 64 per cent. were under that age. These figures appear to bear out my original observations on the prognosis of amphotropin therapy in young dogs suffering from hard pad disease (Wilkinson, 1950). Amphotropin seems to be the most effective and economic agent for use in the general treatment of hard pad available to the small-animal practitioner at the present time.

In passing, it might be of interest to record that of six cases of hard pad disease treated with chloromycetin only one showed the slightest benefit.—Yours faithfully, G. T. WILKINSON, Orford Place, Norwich. *January 19th*, 1952.

Reference.—WILKINSON, G. T. (1950.) *Vet. Rec* **62.** 453.

DISEASES OF ANIMALS ACT, 1950—GREAT BRITAIN

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Fowl Pest	Parasitic Mange*	Sheep Scab	Swine Fever
16th to 31st Dec. 1951	20	18	28	—	5	41
Corresponding period in—						
1950	13	—	39	—	—	54
1949	20	—	8	—	4	—
1948	8	3	8	—	5	—
Jan. 1st to Dec. 31st 1951	407	116	844	—	16	1,343
Corresponding period in—						
1950	344	20	172	—	26	430
1949	244	15	582	—	46	5
1948	118	15	267	1	69	27

* Excluding outbreaks in Army Horses.

Tuberculosis (Attested Herds) Schemes

The number of Attested Herds, *i.e.*, herds officially certified as free from Tuberculosis as at December 31st, 1951, was as follows:—

ENGLAND	WALES	SCOTLAND	TOTAL (GREAT BRITAIN)
36,181	20 640	17,204	74,025